Uv-visible photodegradation of methylene blue doped in poly(vinyl alcohol)(PVA) solid matrix

ABSTRACT

In this paper, The photobleaching of methylene blue (MB) doped in poly(vinyl alcohol) (PVA) matrix was investigated using an uv-visible fibre optic spectrophotometer. The absorption observed at 660nm decreases with the increasing of the exposure time. The blue color of the MB doped PVA sample turned completely colorless after irradiation for 360 seconds. The optical transmission of the samples at different dye concentration was measured in the range of 450-800nm. The photobleaching mechanism in the present sample was also discussed. The experimental results shown that the material studied could be a good candidate for waveguide devices.

Keyword: Photobleaching; Photodegradation; Methylene blue; Uv-visible fibre optic spectrophotometer